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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/751,041	12/31/2003	Robert K. Sink	23920-08335	1953

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FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

EXAMINER

JOHNSON III, HENRY M

ART UNIT	PAPER NUMBER
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3739

DATE MAILED: 09/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

TJH

Office Action Summary	Application No.	Applicant(s)	
	10/751,041	SINK, ROBERT K.	
	Examiner	Art Unit	
	Henry M. Johnson, III	3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 December 2004.
- 2a) ☐ This action is **FINAL**.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☒ Claim(s) 35 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some * c) ☐ None of:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 052104 112904.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The attempt to incorporate subject matter into this application by reference to a co-pending application is ineffective because said application is not identified (paragraphs 0039 & 0044).

In paragraph 0046, label 620 is used to designate both a connector and a carriage.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 12-16, 28-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12, 15 and 28 are indefinite for defining the number of rows in the array as N.

Claim 16 is indefinite as the length is unclear as to whether it is the beam length or total array length.

Claims 14 and 29 are indefinite if the number of rows is one, thereby having no row to row spacing.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4-8, 10, 12-15, 17-20, 23, 25-26, 28-30 and 32 are rejected under 35

U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication US 2005/0018199 to

Leblanc. Leblanc discloses an apparatus for delivering light beams to a surface using an array of optical fibers (Fig. 2, # 15), movable in three dimensions. A laser

diode is disclosed as coupled to the fiber (paragraph 0060) which

may be a single fiber (interpreted as a laser diode for each fiber) or

split by a coupler to multiple fibers (paragraph 0057). The array

may be rectangular in shape (Fig. 3). The coupler is interpreted as

an optical device. A motion control (Fig. 2, # 17) system (e.g., a

combination piezoelectric- and stepper motor-based system) for

moving array (13) relative to surface (11) is disclosed (paragraph 0052). The motion control

system both positions the ends of the fibers sufficiently close to the surface and scans the array

in one or more passes over the surface. The use of stepper motors and the structure of Figure

2 imply a movable carriage. Depending on the sizes of the substrate and the array, the

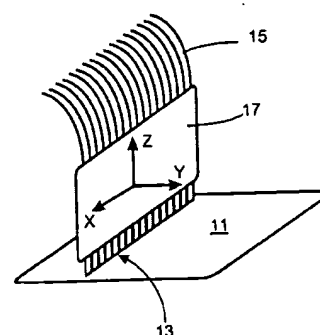


FIG. 2

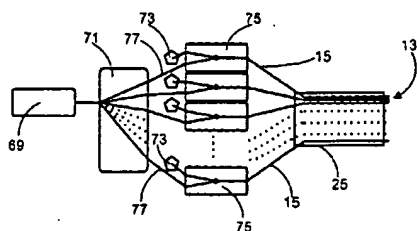


FIG. 8

scanning can be along just the y-axis in FIG. 2 or can

involve scanning in both the x and y directions, e.g., in a

serpentine (or raster) pattern. Also, for any particular

scan in the y-direction, dithering in the x-direction (sub-

scan direction) can be performed to provide full surface

coverage during the scan. The coupler used to slit the beam from a single source (Fig. 8, # 71)

is interpreted as an input port.

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Regarding claims 14 and 18, the scanning is disclosed as having a motion control system. Such a system is interpreted as capable of controlling to whatever limits are needed or desired. Further the sub-scan travel is disclosed as dithering, making it implicitly a very small dimension.

Regarding claim 25, the method steps cited are implicit in the structure. Generating a beam and sweeping the beam must occur for the device to function. Leblanc further teaches the array produces spots (paragraph 0055) and that the spots are dithered. Dithering inherently limits the range of travel to achieve the dithering effect.

Regarding claim 32, the motion control system includes three dimensional control, the "Z" direction being the distance from the surface that inherently adjusts the intensity or exposure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 16 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication US 2005/0018199 to Leblanc. Leblanc is discussed above, but does not teach alternative lasers, the size of the array or the pattern of the spots.

Regarding claim 3, photodynamic therapy lasers are selected for the appropriate wavelength, power, and beam size for the specific therapy. The size of the laser and cost are also well known factors in selection. The use of dye lasers, fiber lasers, solid state lasers, etc is well known and pervasive in the art. It would have been obvious to one having ordinary skill in

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the art at the time the invention was made to select a laser source from the many known devices based on the treatment requirements. It should be noted that no specific benefit or unexpected result is disclosed based on light source.

Regarding claim 16, Leblanc discloses the claimed invention except for the array size. It would have been an obvious matter of design choice to select a size appropriate for the expected treatment areas, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claim 22, it would have been an obvious matter of design choice to make the different portions of the spot pattern of whatever form or shape was desired or expedient. A change in form or shape is generally recognized as being within the level of ordinary skill in the art, absent any showing of unexpected results. *In re Dailey et al.*, 149 USPQ 47.

Claims 11, 21, 24, 31 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication US 2005/0018199 to Leblanc and further in view of U.S. Patent Application Publication US 2003/0045916 to Anderson et al. Leblanc is discussed above. Anderson et al. teach a method and device for delivering therapeutic ultraviolet (UV) radiation to plaques of psoriasis or other skin disorders, with little or no exposure to clinically normal skin. A collimated source of UV radiation scans, or is scanned, over a patient's body such that only plaques of psoriasis receive a therapeutic exposure dose of UV radiation (paragraph 0036). Means are provided to determine the areas of tissue to be treated verses normal tissue and the treatment beam is "shaped" accordingly. The beam may be scanned using a deflecting mirror (Fig. 1, # 16) or delivered manually with a wand with multiple optical fibers (Fig. 6a, #210). The wand further has a sensor (Fig. 6a, #220) to detect the rate velocity and control the beam as appropriate.

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Regarding claim 11, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the deflecting mirror as taught by Anderson et al. in the invention of Leblanc as such mirrors are well known as a means for scanning light beams.

Regarding claim 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the shaping of the spot pattern as taught by Anderson et al. in the invention of Leblanc to achieve a fractional phototherapy of the treatment area.

Regarding claim 24, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the velocity sensor as taught by Anderson et al. in the device of Leblanc to insure the proper beam intensity on the scanned surface.

Claims 9 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication US 2005/0018199 to Leblanc and further in view of U.S. Patent 6,063,108 to Salansky et al. Leblanc is previously discussed, but does not teach sequentially activating the light source. Salansky et al. disclose a method and apparatus for low energy light therapy wherein the light sources may be operated in sequence. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the sequential activation as taught by Salansky et al. in the invention of Leblanc as both simultaneous and sequential methodologies are well known in the art for controlling irradiation of a target and controlling damage to peripheral areas.

Allowable Subject Matter

Claim 35 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

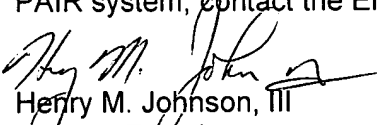
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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry M. Johnson, III whose telephone number is (571) 272-4768. The examiner can normally be reached on Monday through Friday from 6:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Henry M. Johnson, III
Primary Examiner
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